

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

The Applicant has amended claims 1, 8 and 11 and claims 16-18 have been added. The amendments were made primarily to clarify the intent of the claims. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-5 8-10 and 18 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **Claim Rejections – 35 U.S.C. § 112**

Claims 1-5 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter as the invention. Claim 1 has been amended to correct the antecedent basis problem. The Applicant respectfully submits that remaining dependent claims 2-5 are now allowable.

### **Claim Rejections – 35 U.S.C. § 103 (a)**

Claims 1-4, 8-9, and 11-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishiguro (Publication no. US 2003/0185397 A1) in view of Graunke (PGPUB: US2004/0032950A1). The Applicant respectfully traverses the rejection of these claims.

The Ishiguro reference discloses an information processing apparatus for managing copyrights. The basic notion of Ishiguro is to provide a system for managing content having different formats and part of Ishiguro discloses placing a license key in all nodes of a network for "...allowing different systems to exercise secure control over the copyrights for contents". (page 1, para [0008]. As Ishiguro also points out "...it is possible to define as many as 2 to the 24<sup>th</sup> power (about 16 million licenses)." (page 8, para [0147]. The intent and execution of the Ishiguro reference is for providing a content licensing key in as many nodes as possible, which is in direct contrast to the Applicant's invention. The Applicant's invention and claims are directed to reducing the number of instances in a network to serve the same number of clients.

As described in amended claim 1, the Applicant's invention optimizes service distribution in a WAN by modelling the WAN in a tree graph. Service instances are allocated to the leaves in the graph and the minimum number of service instances in the WAN is determined. The optimized number of service instances is determined by checking whether moving a particular service instance from one level to a higher level is capable of completely serving all the clients made possible by the move.

The Applicant respectfully directs the Examiner's attention to

1. (Currently Amended) A method for determining locations of service instances for optimising distribution of a service in a Wide Area Network, the service instances each providing the service from a source to a plurality of clients each client having predetermined requirements, wherein said Wide Area Network (WAN) can be modelled by means of a graph, said method comprising steps of:

placing a service instance in each leaf in said graph, said each leaf representing a node in the WAN directly connected to the plurality of clients; and

starting from the leaves, for each of the service instances:

checking whether the service instance when placed in a vertex on the next higher level can fulfil the requirements of all clients to be served by said service instance; and

depending on the result of the checking step, moving said service instance one level higher to minimize a number of service instances necessary to provide the service to the clients. (emphasis added)

The Applicant respectfully submits that the Ishiguro and Graunke references either individually or in combination do not teach or suggest the above emphasized elements of claim 1.

As previously discussed, the Ishiguro reference does not disclose a Wide Area Network. The Graunke reference discloses a re-encryption system of publicly distributed content. Graunke mentions that distribution of the content may be effected through a Wide Area network. However, neither Ishiguro nor Graunke disclose moving service instances to a higher level node in order minimize the number of service instances and to provide the same service to more clients.

The Ishiguro and Graunke references, individually or in combination, lack the emphasized limitations of amended claim 1. The Applicant submits that amended

claims 8 and 11 are analogous to claim 1 and contain similar limitations. This being the case, the Applicant respectfully requests the allowance of claims 1, 8, and 11 and the respective dependent claims.

Claims 5 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishiguro (Publication no.:US 2003/0185397 A1) in view of Graunke (PGPUB: US2004/0032950A1) and further in view of Moody (publication no.: US 2005/0005272).

The Moody reference is cited for teaching the use of a Petri net analysis. However, Moody lacks the limitations that are also lacking in the Ishiguro and Graunke references. The Applicant respectfully submits that the combination of Moody and the Ishiguro and Graunke references do not disclose the limitations as recited in claims 1, 8 and 11. Claims 5 and 15 depend from amended claims 1 and 11 and recite further limitations in combination with the novel elements of claims 1 and 11. Therefore, the allowance of claims is respectfully requested.

#### **Prior Art Not Relied Upon**

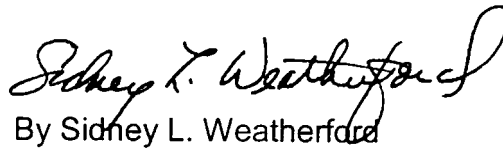
In paragraph 10 on page 10 of the Office Action, the Examiner stated that the prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure.

### CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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Date: April 23, 2008

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